**ETHERNET APPLICATIONS**

**AUTOMOTIVE** Ethernet is one of Ethernet's latest success stories. Forecasts predict up to 500 million ports of Ethernet will ship in 2019. Ethernet helps within cars provide data and power to reduce the cost and weight in vehicles while providing economies of scale and interoperability. The bandwidth demand of connected cars could be the next big driver for Ethernet to go beyond 400GbE!

**ENTERPRISE** and Campus applications drive the bulk of Ethernet port shipments with hundreds of millions of ports shipping per year. Ethernet's roots are in enterprise local area networks (LANs) where the entire Ethernet family, including the BASE-T products, can be found. LANs are rich in copper where over 70 Billion meters of cable have been deployed over the past 15 years. Enterprise data centers are very cost sensitive and most servers deploy GbE and 10GbE.

**CLOUD PROVIDERS** were the first to adopt 100GbE servers on a large scale in 2010 for hyperscale data centers. With voracious appetites for east-west traffic, hyperscale servers have move to 250GbE and are transitioning to 500GbE and beyond. Unique networking architectures within these warehouse scale data centers have driven multiple multimode and single-mode fiber solutions at 100, 200 and 400GbE. The bandwidth demands of hyperscale data centers and service providers continue to grow exponentially and in a similar direction that blurs the lines between the two.

**SERVICE PROVIDERS** have driven higher speed Ethernet solutions for decades. Router connections, client side optics for optical transport network (OTN) equipment, and wireless backhaul have continually pushed Ethernet to higher rates and distances. And with global demand by consumers for video, this shows no signs of changing.

**INTEROPERABILITY AND CERTIFICATION**

The Ethernet Alliance is committed to leading the change to instilling industry confidence in Ethernet standards through its multi-vendor interoperability demonstrations and plugfests. Our PoE Certification Program takes this mission to the next level. Our industry-defined PoE Certification Test Plan is based on the Ethernet PoE standard, and provides confidence in the recognition for products that are based on the IEEE 802.3 PoE standard, and provide interoperability with the need for lower speed Ethernet solutions in harsh environments. Today this space is leveraging BASE-T solutions from the enterprise space. The Ethernet community is working to define a single PoE standard for 10 Mb/s operation plus power delivery over a single twisted pair. This will consolidate a landscape of multiple legacy protocols, driving the promise of Ethernet's multi-level interoperability to new heights for these spaces, as 2019 forecasts point to 165 million ports per year.

**To get a PDF version of the roadmap and to find out more about the roadmap, please go to:** [www.ethernetalliance.org/roadmap/](http://www.ethernetalliance.org/roadmap/)